

Massachusetts Materials Management Capacity Study: Draft Findings

1

PRESENTED TO:

SOLID WASTE ADVISORY COMMITTEE

10/25/2018



DRAFT FINDINGS



Introduction

2



- Waste and Recycling Market Research
- Zero Waste & Solid Waste Management Plans
- Procurement Assistance
- Cost/Rate Studies
- Waste and Recycling Characterization Studies
- Feasibility Studies

Background

3

- **SWMP:** MassDEP beginning development of 2020-2030 Solid Waste Master Plan
- **2018 Focus:** Gather background information and stakeholder input
- **Solid Waste Capacity:** Many Master Plan issues related to materials management capacity

Objectives

4

- Compile current annual “materials management” capacity data
- Identify qualitative trends for how this capacity is likely to change in the coming decade
- Identify disposal capacity trends in the states that currently receive waste from Massachusetts
- Provide information about the costs to transport waste materials from within Massachusetts to more distant facilities

Targeted Facility Types

5

Category	Type
Disposal	Landfill
	Waste to Energy (WTE)
Transfer	Transfer & Handling
Processing	Material Recovery Facility (MRF)
	C&D Processor
	Compost
	Anaerobic Digestion
	Animal Feed Operation
Reuse	Food Rescue Operation
	Textiles & Household Goods
	Building Materials & Household Furnishings
	Institutional/Commercial Furniture & Equipment

Excluded Facility Types

6

- Computer & electronic appliance remanufacturers
- Motor vehicle parts (used)
- Tire retreaders
- Pallet remanufacturing and reuse
- Materials exchange services (virtual marketplaces)
- Retail used merchandise sales including:
 - Surplus stores
 - Used book dealers
 - Used household appliance stores
 - Secondhand sporting goods stores
 - Specialized secondhand stores
 - Flea markets
 - Antique stores

Geographic Coverage

7

- **In-State:** All facilities in Massachusetts
- **Out-of-State**
 - All disposal, transfer, or processing facilities within 30 miles of the Massachusetts border
 - All disposal facilities receiving $\geq 5,000$ tons of Massachusetts waste, regardless of distance
 - No reuse operations

Primary Geographic Boundary

8



Research Overview

9

1,137
facilities
identified

867
tonnage data
points collected

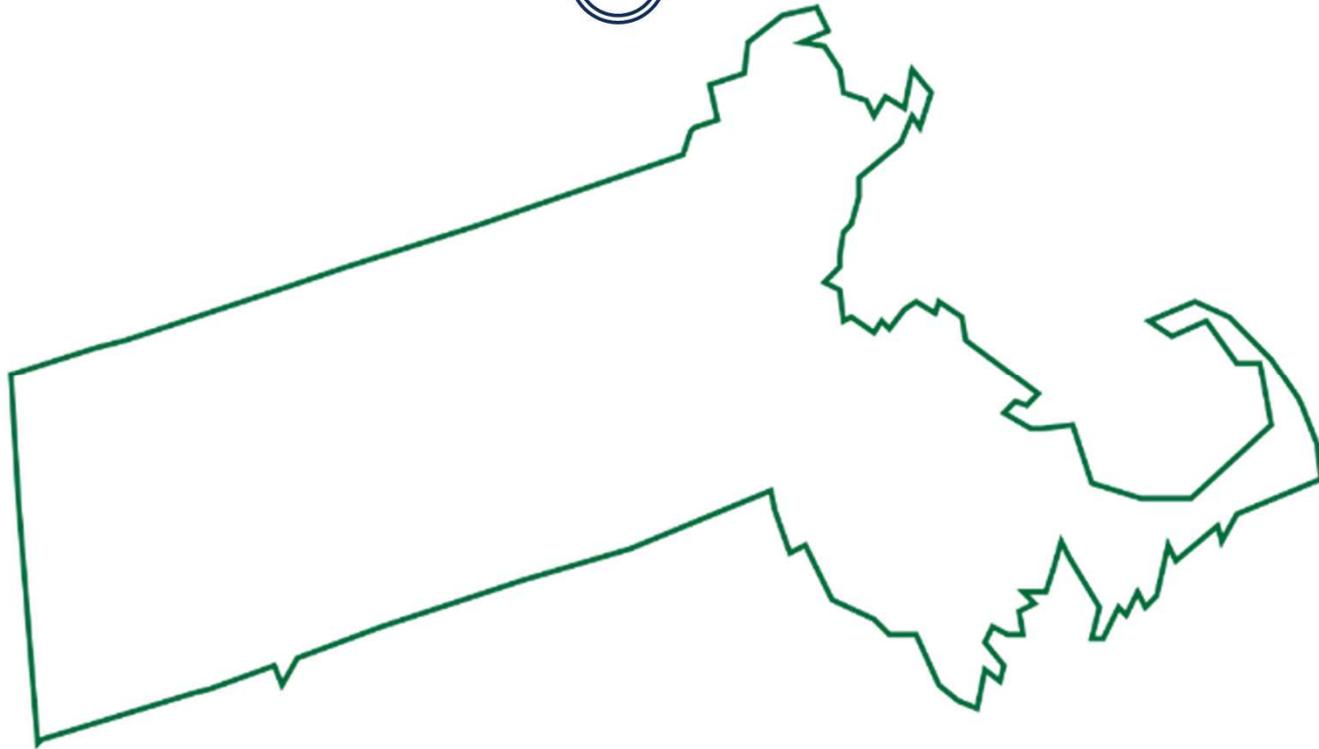
Over 100
source files
compiled

Over 120
organizations contacted
directly (representing
more than 225 facilities)

8
state regulatory agencies
interviewed

In-State Solid Waste Capacity

10



7
WTE facilities

3.25 million
tons of solid waste
received

93%
of permitted
capacity utilized

44.0%
of the total solid
waste managed in
Massachusetts



Waste-to-Energy

10
MSW landfills

1.26 million
tons of solid waste
received

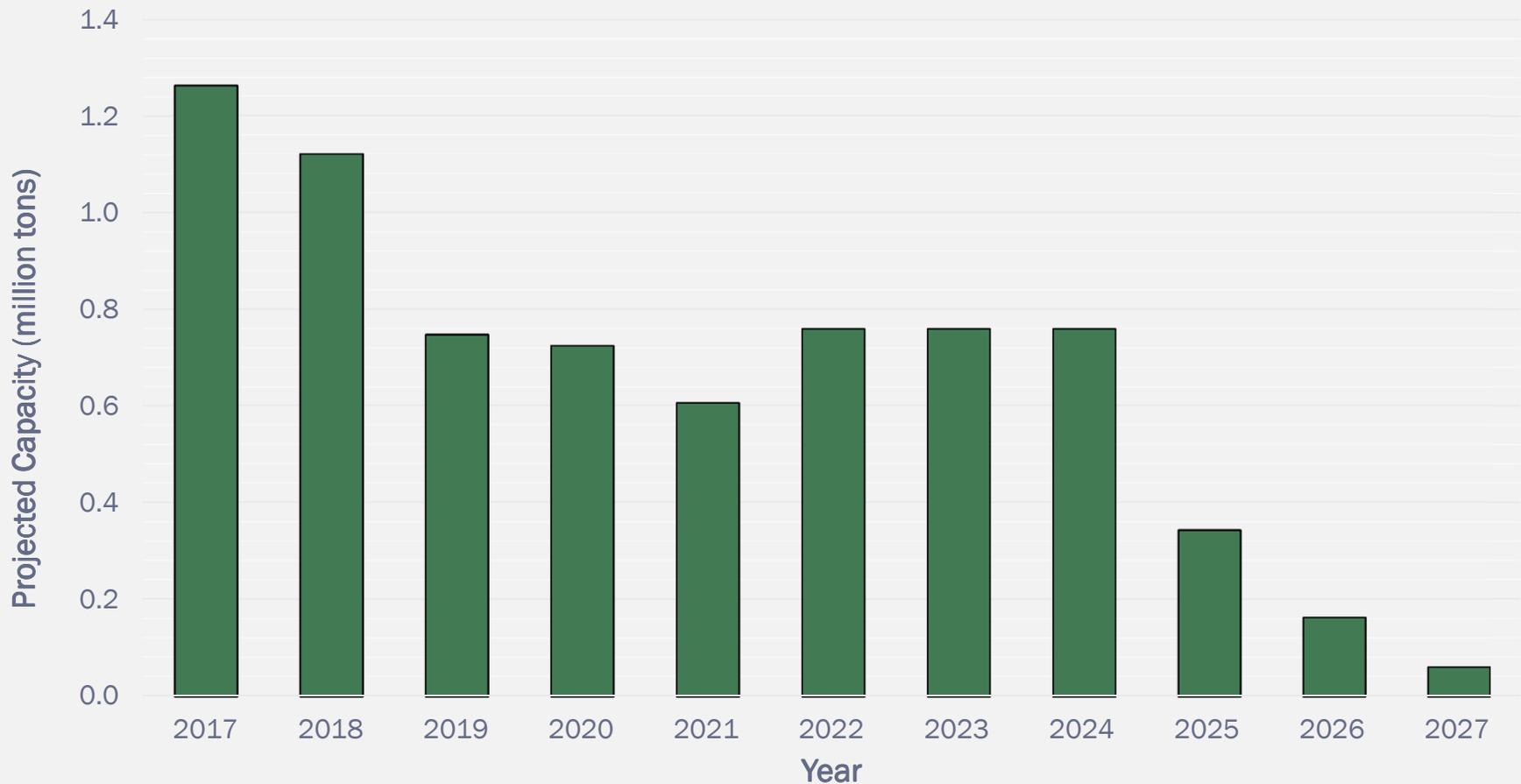
83%
of permitted
capacity utilized

17.1%
of the total solid
waste managed in
Massachusetts



Landfills

Massachusetts Projected Landfill Capacity



Note: The Town of Bourne Landfill is projected to be capable of an increase in MSW capacity after its ash disposal contract with Covanta SEMASS expires in Dec. 2021.

54
large or C&D
transfer & handling
facilities

3.46 million
tons of solid waste
received

58%
of permitted
capacity utilized

999,000
tons of solid waste
exported out-of-state

13.5%
of the total solid
waste managed in
Massachusetts



Transfer & Handling

8
MRFs

690,000
tons of material
received

90%
of estimated
capacity utilized

629,000
tons of material
recycled

8.5%
of the total solid
waste managed in
Massachusetts



MRFs

17
C&D processing
facilities

1.34 million
tons of material
received

50%
of permitted
capacity utilized

251,000
tons of solid waste
recycled

8.9%
of the total solid
waste managed in
Massachusetts



C&D Processing

197
compost facilities

400,000
tons of material
received

88%
of estimated
capacity utilized

5.4%
of the total solid
waste managed in
Massachusetts



Compost

8
anaerobic digestion
facilities

111,000
tons of material
received

36%
of permitted
capacity utilized
(new capacity
coming online)

353,000
tons of additional
capacity available in
near future

1.5%
of the total solid
waste managed in
Massachusetts



Anaerobic Digestion

7
animal feed
facilities

13,000
tons of material
received

9%
of permitted
capacity utilized

0.2%
of the total solid
waste managed in
Massachusetts



GL2



Animal Feed

Slide 19

GL2

Could not find any other animal-related pictures; Placeholder picture

Greg Lenaz, 10/22/2018

220
reuse operations

43,000
tons of material
received

13 out of 25
surveyed
respondents expect
to increase in scale

0.6%
of the total solid
waste managed in
Massachusetts



Material Reuse Organizations

Slide 20

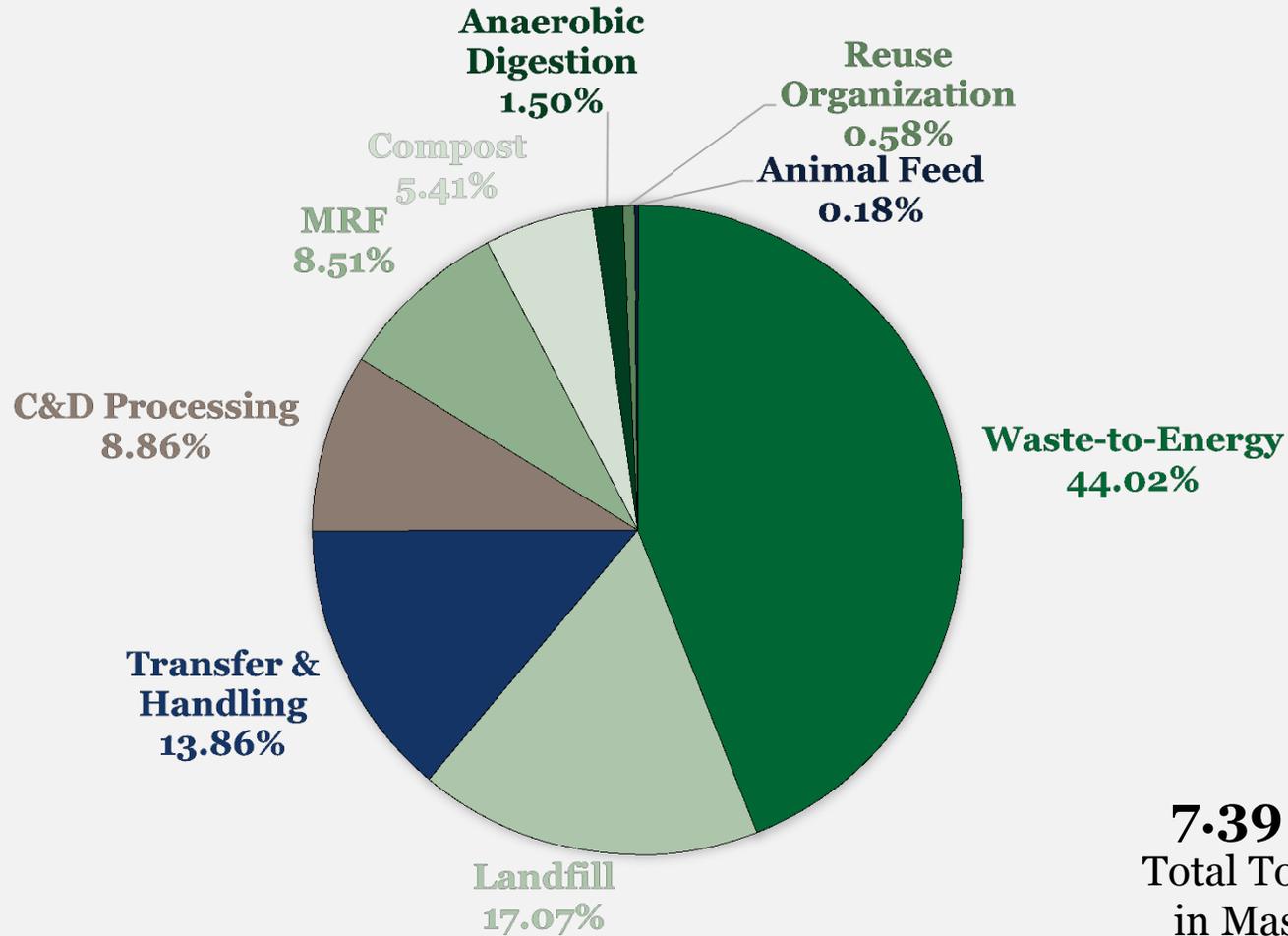
GL3

Will stop by Goodwill today to take a few photos

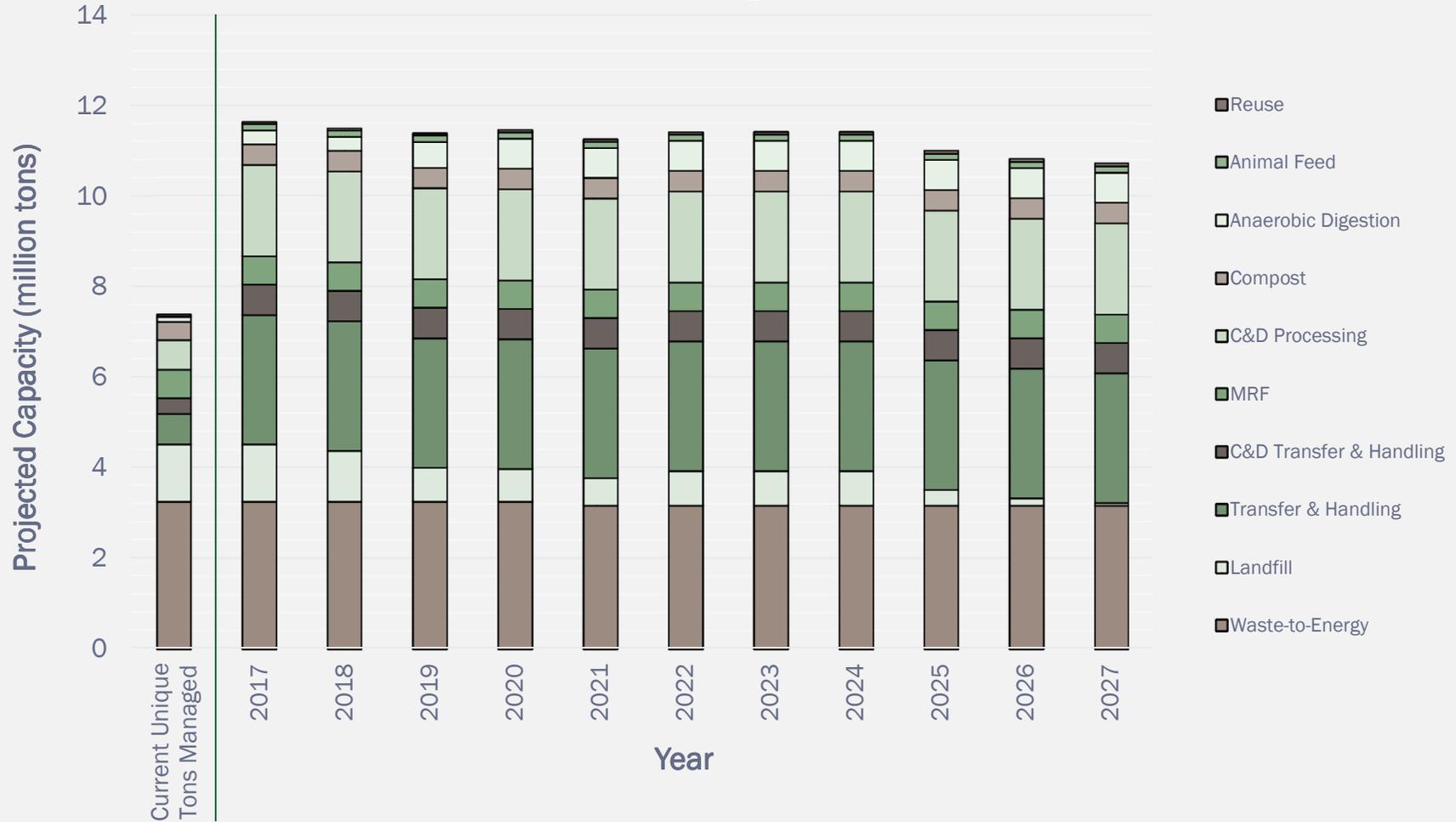
Greg Lenaz, 10/22/2018

Massachusetts Tons Managed

21

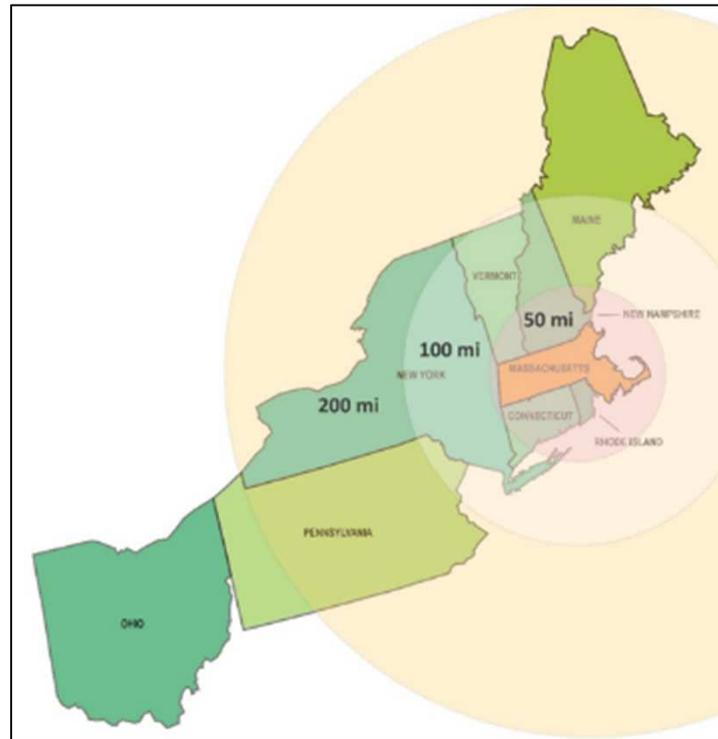


Projected In-State Solid Waste Capacity



Export Markets

23



407
facilities identified
within 30 miles of
Massachusetts, or
accepting $\geq 5,000$
tons

1.65 million
tons of solid waste
exported from
Massachusetts

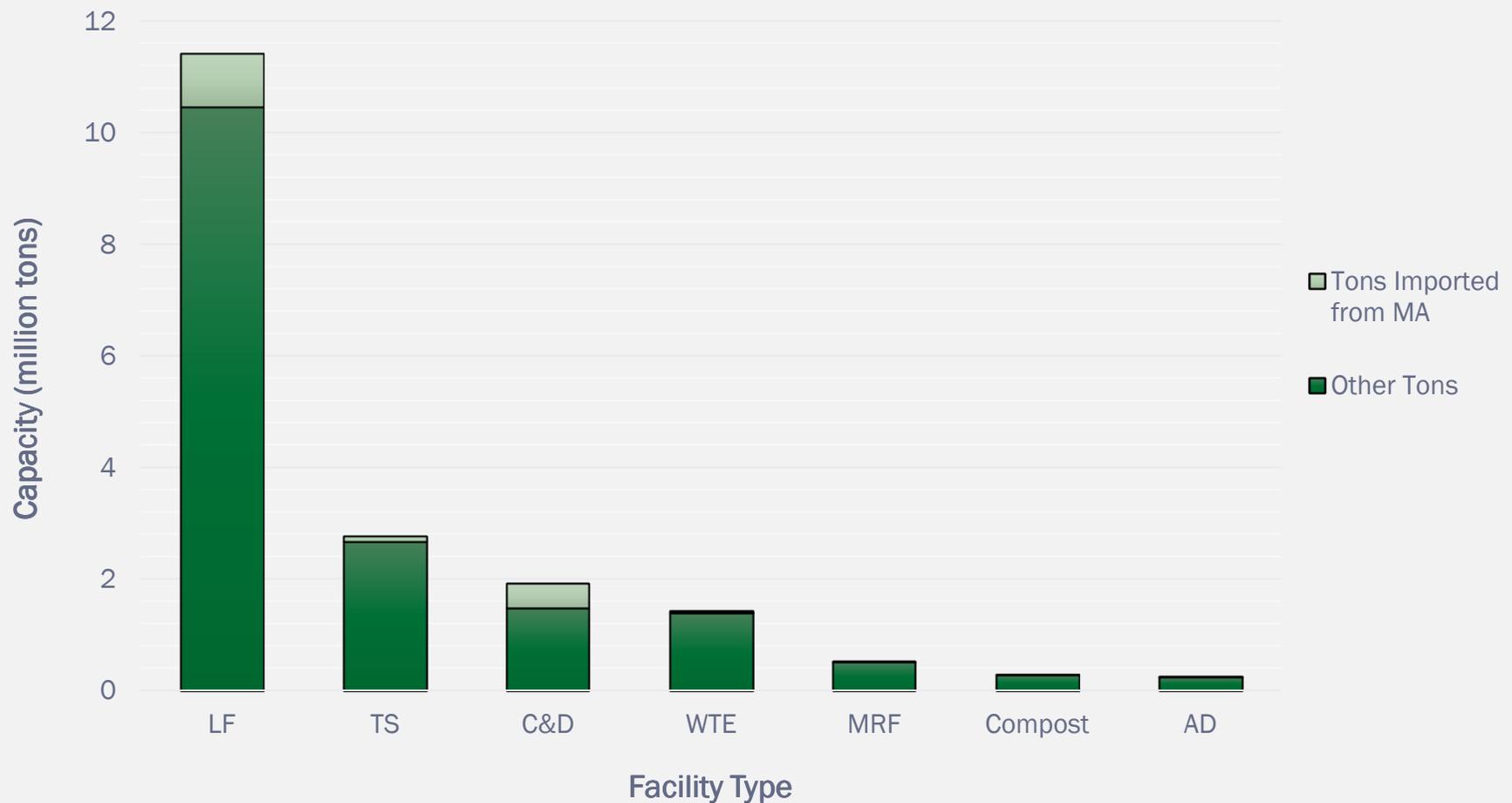
10.4%
of tons received at
these facilities
originates from
Massachusetts

State	No. of Facilities	Permitted Tons	Tons Received	MA Tons Received	% of Total MA Tons Exported
CT	144	2,506,392	2,137,016	22,493	1.36%
ME	23	1,111,949	888,610	190,997	11.58%
NH	98	2,544,862	2,724,298	439,597	26.65%
NY	63	4,758,497	4,866,750	220,634	13.37%
OH	3	4,064,307	2,178,925	386,557	23.43%
PA	0	0	0	1,078	0.07%
RI	51	2,790,433	2,482,216	307,639	18.65%
VT	25	747,333	653,333	20,108	1.22%
QC	NA	NA	NA	60,544	3.67%
TOTAL	407	18,523,773	15,931,148	1,649,647	100.00%

Export Market Summary

Out-of-State Capacity by Facility Type

25

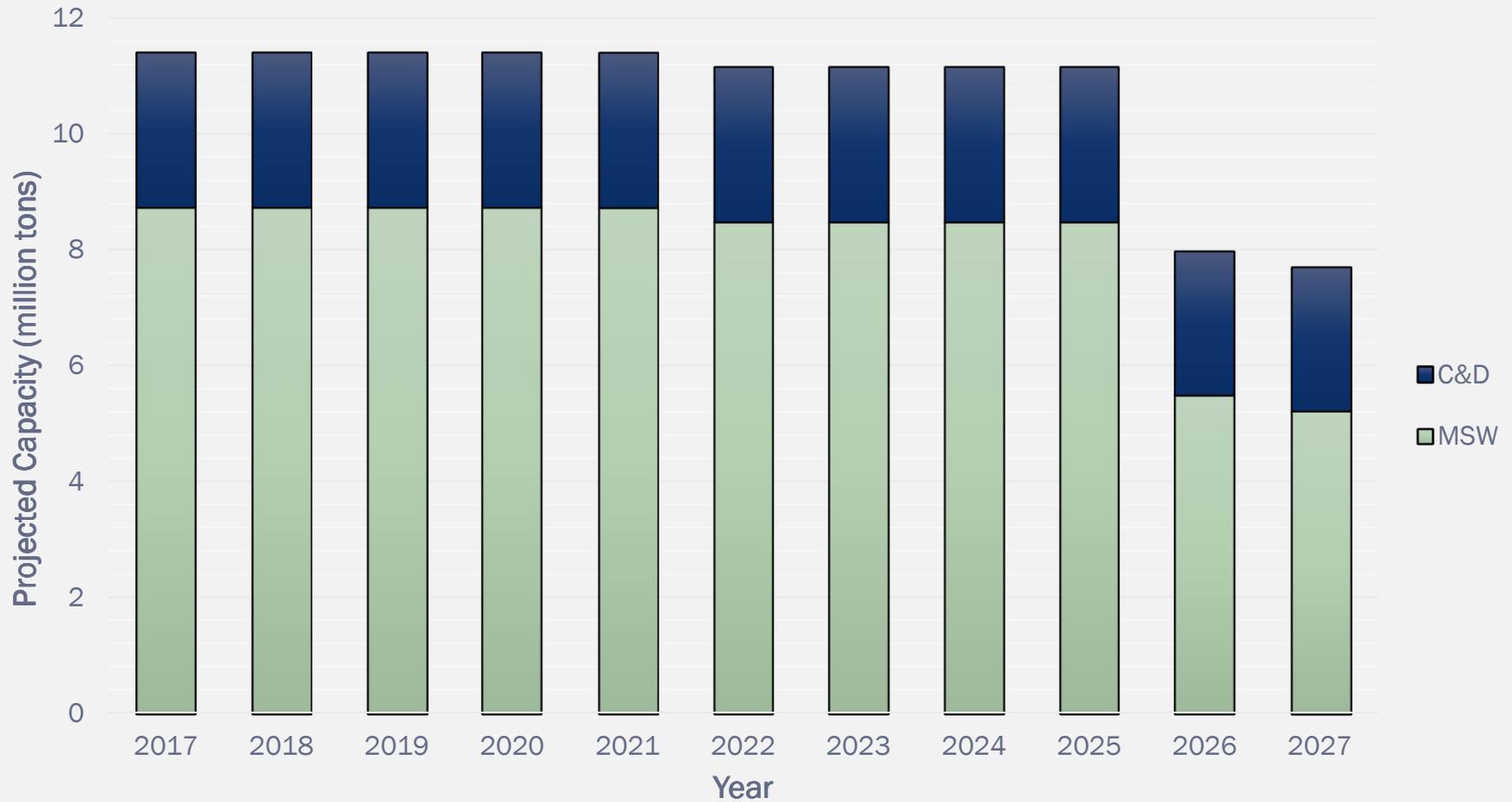


Note: Includes facilities within 30 miles from MA border or WTE/LF facilities accepting ≥ 5000 tons of MA waste

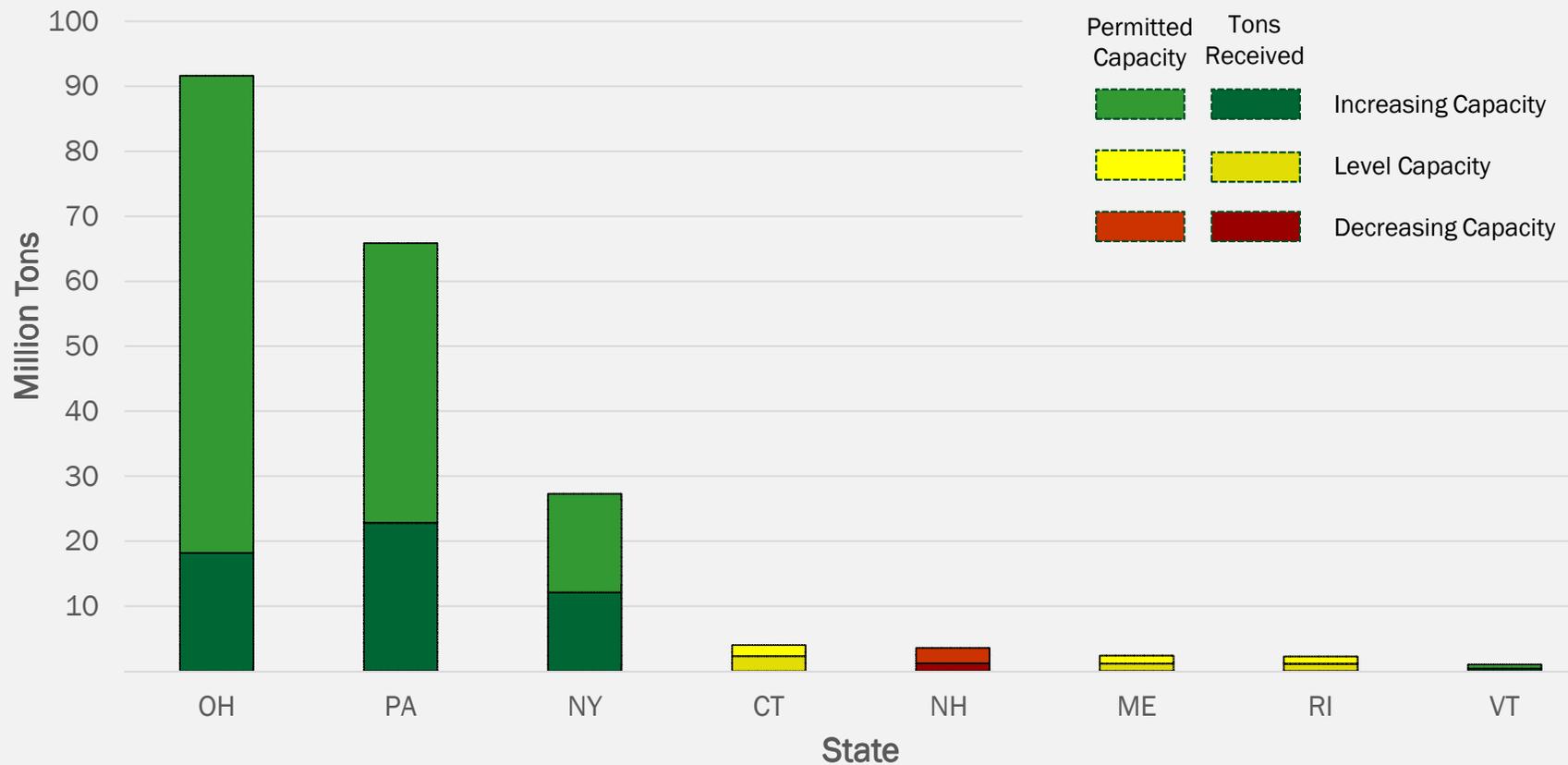
Landfill Capacity Projections

(at Importing Landfills)

26



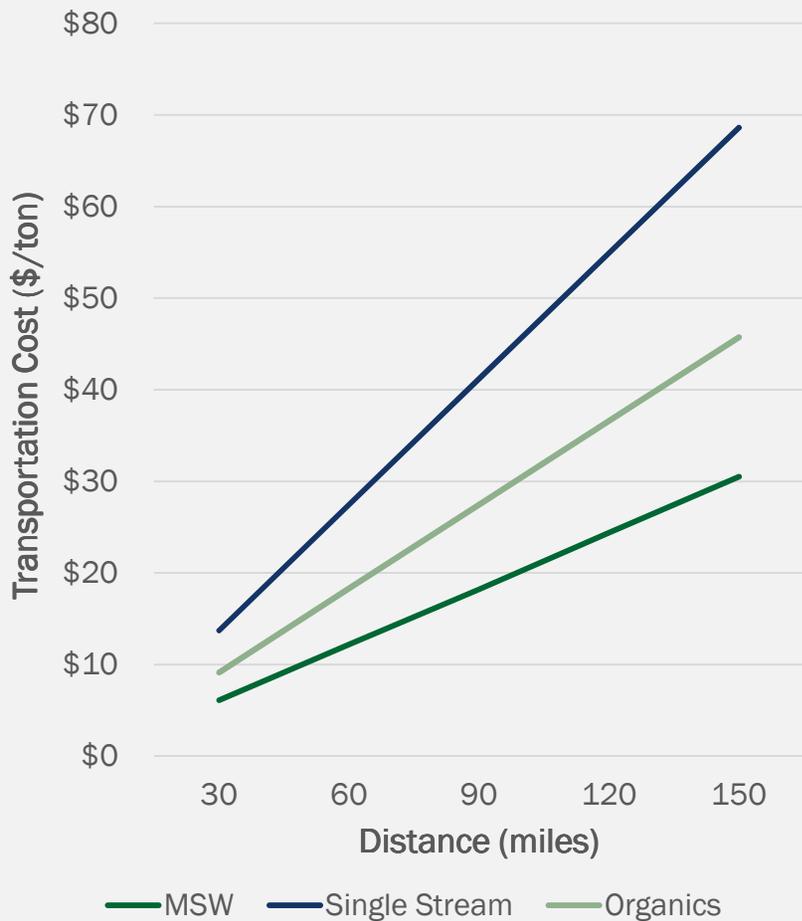
Out-of-State Disposal Trends



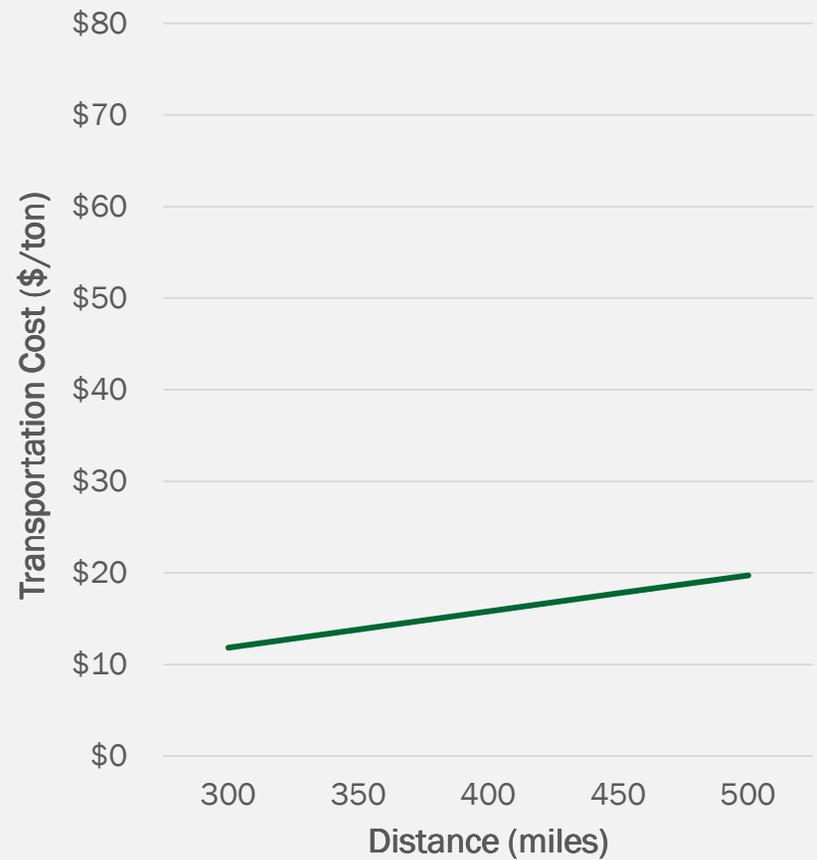
Waste Transportation Costs

28

Truck Transportation Cost by Distance



Rail Transportation Cost by Distance



Conclusions

29

- **Disposal is increasingly reliant on export markets**
 - Massachusetts Landfills and WTEs are operating at capacity, with closures forthcoming
 - Massachusetts transfer stations have excess capacity
 - Significant disposal capacity exists in western export markets (NY, PA, OH)
- **C&D processing can absorb another 1.3 millions tons**
 - C&D processing to recover recyclables projected by DEP to increase
 - But high residue rates mean most of this will still require disposal
- **There is meaningful capacity for source separated recoverable materials**
 - Organics to AD, compost facilities and food rescue
- **Reuse sector has minimal impact by tonnage**
 - Although maximizes recovered material value

Projections

30

- Exported disposal tonnage will continue to increase
- Source separation will be necessary to capitalize on Massachusetts solid waste capacity
- The above bullets point to higher costs for materials management in Massachusetts

Next Steps

31

- **October:** Incorporate DEP comments on draft report
- **November:** Issue final report



Questions

32

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